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Development and Evaluation of a Process of Health Screening for the UK MOD

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KING'S CENTRE FOR MILITARY HEALTH RESEARCH (KCMHR) is a joint initiative of the Institute of Psychiatry and the Department of War Studies at King's College London, incorporating the new Centre for Defence Mental Health

http://www.kcl.ac.uk/kcmhr/information/

Overview

- MOD asked the study team to develop a screening questionnaire focusing on physical and psychological health, to assess its validity, and eventually its effectiveness.
- Purpose was to carry out a pragmatic study to reproduce, as realistically as possible, the conditions in which such a screening questionnaire would operate.
- The programme was conceived as a regular event that would be **unrelated to any specific deployment**, but would incorporate information on deployments.
- ***"A badly implemented screening programme is potentially damaging because it may not lead to any health benefits, use scarce resources inefficiently, cause side effects in those who should have benefited and create a sense of despondency among health providers."***

Aims

- **response rate** to and **prevalence of problems** identified by the full and abridged screening questionnaires
- the **validity** in terms of positive and negative predictive values, sensitivity and specificity of the screening questionnaires
- the **level of agreement between servicemen and doctors** about the medical encounter related to the referral associated with the screening questionnaires
- the **process of screening** based on the screening questionnaires
- **qualitative analyses** to explore possible barriers to and opportunities for screening in the military

Design & methods

- 4,500 servicemen, men and women, were selected - 2,250 in each group
- the proportion of servicemen within each group reflected the relative strength of each Service
- group 1 received the full screening questionnaire, group 2 received an abridged questionnaire
- the questionnaires were distributed by mail

Design & methods

Health components of the *full* questionnaire:

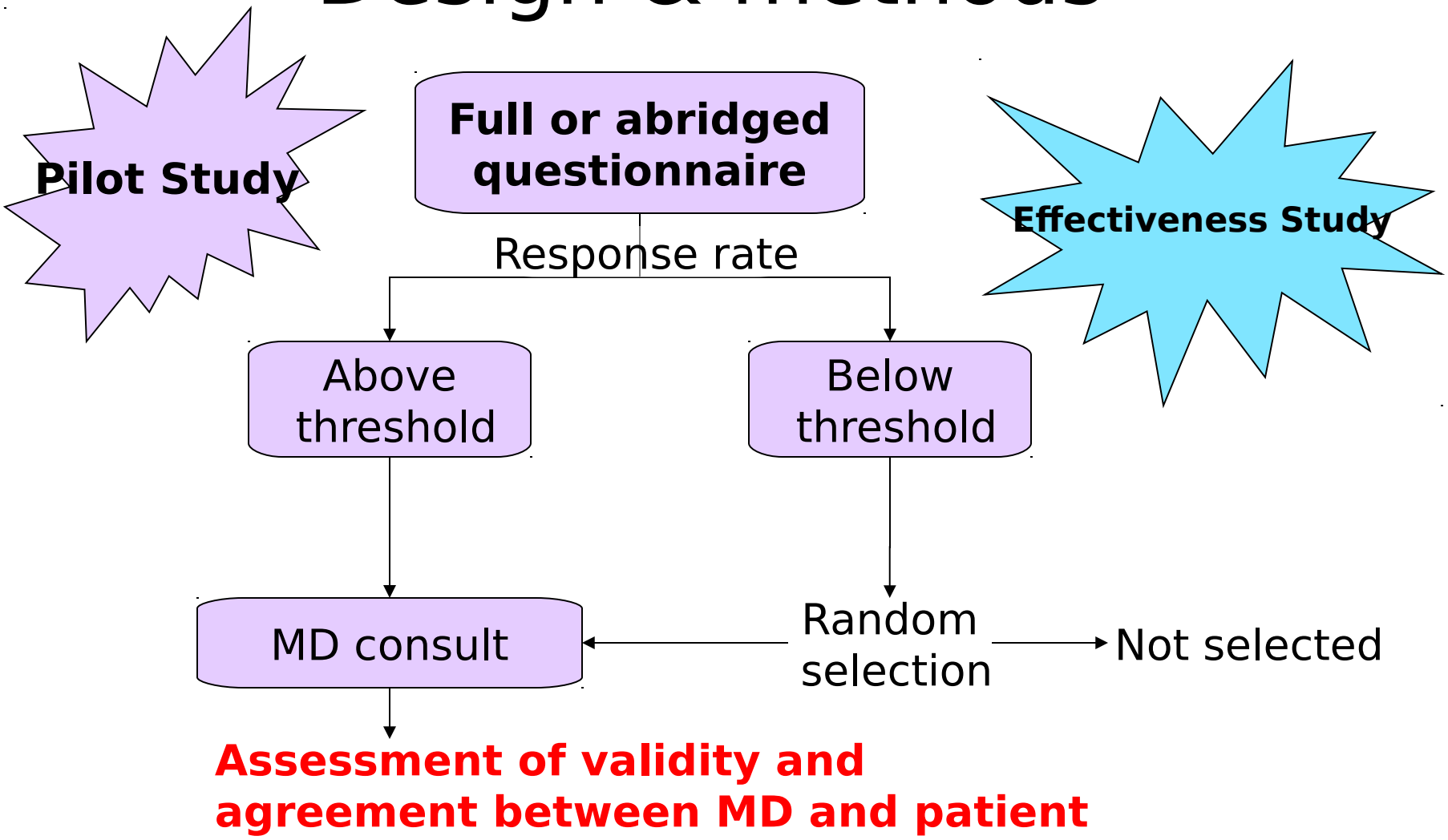
- the Post Traumatic Stress Disorder (PTSD) checklist;
- the 12 item General Health Questionnaire (GHQ-12),
- 5 symptoms selected from a previous study
- One question on self-perception of health from the Short Form (SF)-36
- 3 questions adapted from the World Health Organisation Alcohol Use Disorders Identification Test (WHO AUDIT)

Design & methods

Health components of the *abridged* questionnaire:

- 14 of the 17 items of the PTSD checklist
- 4 questions from the GHQ-12
- 5 of the 15 symptoms in the full questionnaire,
- One question on self-perception of health from the SF-36

Design & methods



Design & methods

- Post-consultation questionnaires

For the MD

- perception of the health need of the patient
- already aware of the serviceman's health problem?
- actions taken by the doctor
- value of the consultation

For the patient

- would he have visited the doctor if it had not been suggested
- actions taken by the doctor,
- patients expectations from the consultation
- value of the consultation
- did he think there was something wrong with his health
- did the doctor deal with the health problem

- Refusal questionnaire

Results (1)

- Overall 75.5% returned a questionnaire after 3 mailings of which 67% were completed.
- Response rate was slightly, but statistically significantly, higher in the abridged (69.6%) than the full questionnaire (64.7%).
- Almost 32% of respondents to the full questionnaire satisfied criteria for being a case and 22.7% of respondents to the abridged questionnaire were cases.
- The difference was almost entirely due to cases related only to alcohol behaviour.
- Symptoms, the GHQ and alcohol behaviour items contributed to caseness in the full questionnaire while the GHQ scale was the main contributor of caseness in the abridged questionnaire.

Results (2)

- The PTSD checklist contributed to caseness, on its own, in only 10 out of 2,873 servicemen. Using a cut off of 50 on the PTSD checklist gave a prevalence of 2.5%.
- 30% of servicemen attended a medical centre upon receiving our invitation to attend.
- For the full questionnaire fewer cases than controls attended the medical centre and PTSD cases attended less than those who were non-PTSD cases.
- The **positive predictive value** of the test (PPVT) comparing caseness in the screening questionnaire and the views on health need from the MO was **47%** (95%CI 36% - 59%) for the full questionnaire and virtually the same for the abridged questionnaire 48% (95%CI 36% - 60%).

Results (3)

- The **negative predictive value** of the test (NPVT) was **70%** (95%CI 60% - 79%) and 75% (95%CI 62% - 85%) for the full and abridged questionnaire respectively.
- The **sensitivity** was poor, 43% for the full and 36% for the abridged questionnaire and the **specificity** 74% and 83% respectively.
- 62% of subjects who were a case according to the screening questionnaires thought that there was nothing wrong with their health.
- There was a poor agreement (Kappa = 0.38) between the doctor and the serviceman's views as to whether there was anything wrong with the health of the serviceman.

Qualitative Results

- Lack of trust in military medical services
- Fear of lack of confidentiality and stigmatisation regarding psychological disorders.
- Fear that truthful answers to some questions could be detrimental to career
- Poor system and quality of healthcare
- Health concerns include problems at home
- Suspicions about motives behind implementing health screening.
- Poor work environment and & lack of support to deal with it.
- ***'Lack of confidence'*** was the key theme

Conclusions - screening

The results of the study did not support implementation of a screening programme focusing on psychological health.

- Many conditions were short lived or minor
- Little support for screening among Medical Service personnel
- Little interest among service personnel to accept an invitation to visit the MD, following a positive screen
- Those who may have a more serious psychological problem are reluctant to see an MD.
- Lack of trust among service personnel concerning discussion of psychological problems
- Validity of questionnaires for subjective health concerns is poor
- One third of those with a presumptive illness were already known to the MD
- Potential to increase level of dissatisfaction with Medical Services

Recommendations

- Pre and post deployment screening of service personnel **not recommended**
- Large number of presumptive cases might overwhelm the Medical Services (assuming a higher acceptability of following up)
- RCT to assess effectiveness and cost benefit of a screening programme for physical and psychological health problems **not recommended**
- Screening for PTSD **not recommended**.

Recommendations

- Questionnaire could be used for health surveillance - questionnaire with multiple physical and psychological dimensions would be recommended, used every 3-5 years.
- Develop strategies for gaining support from service personnel and health staff before introducing new health programmes.
- Develop strategies to deal with management of psychological illness and multiple symptoms aiming to increase health staffs' interpersonal and informational skills.

Publications in press

Journal of Medical Screening 2004 Vol 11 Number 2

Screening for physical and psychological illness in the British Armed Forces:

I Acceptability of the programme

II Barriers to screening – learning from the opinion of Service personnel

III The value of a questionnaire to assist a Medical Officer to decide who needs help